transverse rib comprising generally spanwise rib means extending within a portion of the said wing sheets, the wing sheets sliding on said spanwise rib means, the said rib means engaging the wing sheets such that axial rotation of said transverse rib is transmitted to said wing sheets through said rib means.

25. An assembly according to Claim 24, the power driving the said spanwise rib means not applied to them from within the wing sheets.

26. A rotary wing having a spar that flexes and crosses its axis, and wing sheets forming flying surfaces and mounted upon a frame including said spar and rotatable about the longitudinal axis of said spar without transmission of flexural movement to the wing sheets, the spar mounting a rotatable transverse rib adapted to receive power transmission through a drive means coaxially mounted to said transverse rib for axial rotation about said spar, the said transverse rib carrying opposed rib means extending generally spanwise within a portion of the said wing sheets, the wing sheets sliding upon the said rib means, the said rib means engaging the wing sheets such that axial rotation of said transverse rib is transmitted to said wing sheets, the said transverse rib and the said rib means constituting a structure independent from said frame, the wing sheets being driven by a structure bringing no contribution to the wing sheets structural strenght.

27. An assembly according to Claim 24, the rotation being transmitted through a relative movement between said rib means and the said wing sheets, wherein the wing sheets undergo limited movement in

the plane of the wing relatively to said rib means while the said rib means are relatively fixed in the said plane, wherein the said rib means keep generally parallel to the spar longitudinal axis during the 360° of angular rotation.

28. An assembly according to Claim 26 whereby the said frame does not transmit rotation to said rib means.

29. A rotary wing comprising a spar that flexes and crosses its axis, the spar being mounted upon an aircraft fuselage, and wing sheets forming flying surfaces and mounted upon a frame including said spar and rotatable about said spar without transmission of flexural movement to the wing sheets, the said fuselage comprising an engine, the spar mounting a rotatable transverse rib adapted to receive power from said engine through a power transmission means coaxially mounted to said transverse rib, the said transverse rib comprising generally spanwise rib means oppositely fixed to it and extending within a portion of the wing sheets and detached from said wing sheets and positioned such that rotation of said transverse rib is capable to drive the wing sheets through said spanwise rib means, the said engine being capable to transmit power to the surface of the wing sheets without transmitting it to the frame.

30. An assembly according to Claim 29, the said spanwise rib means being fixed to said transverse rib in position suitable for engaging the wing sheets while allowing the relative movement between the wing sheets and the frame.

31. An assembly according to Claim 24, the said flying surface including longitudinal edges, the said spanwise rib means mounted at a chordal distance between them such that they keep clear from the said longitudinal edges and the wing sheets are able to angle in the chordal plane while the spar has reached its maximum flexion.

32. An assembly according to Claim 24, the said flying surface including a root chordal edge, wherein a chordal clearance in the plane of the wing between the said transverse rib and the said chordal edge is maintained such to accomodate the angling of the said chordal edge during the 360° of angular rotation of the said flying surface.

33. An assembly according to Claim 4, wherein the said rib means driving the wing sheets are positioned not in a chorwise direction.

34. An assembly according to Claim 24, the said spanwise rib means mounting coaxial tubes capable to turn about them, wherein the said tubes engage the wing sheets such that they transmit rotation to the said wing sheets while rolling on the said wing sheets during the limited movement between said spanwise ribs and the said wing sheets.

35. An assembly according to Claim 24, the said spanwise ribs transmitting rotation to the said wing sheets being not fixed to the spar and not rotated by the spar.

36. An assembly according to Claim 24, the said spanwise ribs being independent from the spar flex.

37. An assembly according to Claim 26,

the axial rotation to the wing sheets being not transmitted through a relative movement between the wing sheets and frame means, wherein the said rotation is transmitted through a relative movement between the wing sheets and rib means not constituting part of the frame.

38. An assembly according to Claim 24, wherein the spar has no drive means fixed to it.

39. An assembly according to Claim 26, the chordal distance between said rib means being suitable for engaging the wing sheets and drive them for axial rotation while not hindering the relative movement between the wing sheets and the frame.

40. An assembly according to Claim 24, the rotation being not transmitted to the wing sheets by the wing sheets of an adjacent flying surface with an autonomous assembly to achieve the flexing of the spar.

41. An assembly according to Claim 29, the power being transmitted only to the root portion of the wing flanking the fuselage.

42. An assembly according to Claim 24, the said transverse rib and the said drive means being mounted such that a spanwise clearance between them is maintained.

43. An assembly according to Claim 24, the transmission of rotation to the wing sheets being achieved without transmission of rotation to the spar.

44. An assembly according to Claim 24, the rotation being not transmitted through a relative movement between the wing sheets of two adjacent flying surfaces each with an autonomous assembly to achieve the spar flex , wherein one flying surface transmit rotation to the other.

Respectfully,

Paul Orazi

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